Iowa Department of Natural Resources
Environmental Protection Commission

ITEM **6** **DECISION**

TOPIC **Contract – University of Iowa Hygienic Laboratory – 2007 Ambient Biological Monitoring and Laboratory Services**

The Department requests Commission approval of a $249,084 contract with the University of Iowa Hygienic Laboratory to conduct stream biological monitoring.

The objective of this program is to maintain and build upon existing efforts to assess streams in Iowa using biological monitoring protocols. The Clean Water Act requires states to monitor and assess all waters of the state for beneficial uses including aquatic life uses. This contract provides for several aspects of monitoring and assessment to determine biological integrity of Iowa streams including:

- Monitoring at wadeable reference sites that are used to set goals for biological integrity in streams of similar size, physiographic region, and landuses.
- Monitoring at sites in need of further investigation (WINOFI) where previous monitoring was inconclusive with respect to impairment.
- New monitoring in headwater streams to begin to build assessment techniques for intermittent and ephemeral streams.
- Development of a coldwater Index of Biotic Integrity since the current assessment protocol may not perform as well for coldwater streams.
- Macroinvertebrate sampling at Nonwadeable streams to supplement and enhance the Iowa State University Nonwadeable stream monitoring and assessment project.

Funding for this contract comes from the Environment First Infrastructure Funds – Water Quality Monitoring Funds.

Mary Skopec
Section Supervisor
Water Monitoring and Assessment
Iowa Geological Survey and Land Quality Bureau
Environmental Services Division

June 10, 2007

Monitoring Costs By Ambient Biological Monitoring Program - FY08	
Wadeable Reference and WINOFI Sites (20 samples / 20 sites)	**Variable Cost**
Field Sampling Activities	$38,470
Benthic Sample Processing	$12,800
Water Quality Analysis (AQLIFEST)	$6,840
Des Moines Lobe Headwater Streams (29 samples / 25 sites)	
Field Sampling Activities	$36,741
Benthic Sample Processing	$18,560
Water Quality Analysis (AQLIFEST)	$8,990
Coldwater Benthic Macroinvertebrate IBI (17 samples / 17 sites)	
Field Sampling Activities	$15,977
Benthic Sample Processing	$10,880
Water Quality Analysis (AQLIFEST)	$6,800
Non-wadeable Benthic Macroinvertebrate IBI (27 samples / 23 sites)	
Field Sampling Activities	$31,705
Benthic Sample Processing	$17,280
Water Quality Analysis (AQLIFEST)	$8,590
Equipment	
Equipment	$5,000
Miscellaneous (waders, gloves, tapes, tools)	$7,000
Maintenance and Repair	$3,500
Shipping and Handling	$1,500
Sub-total	$230,633
F&A (8%)	$18,451
Total	$249,084

This contract is entered is between the Iowa Department of Natural Resources (DNR) and University of Iowa (Contractor). The parties agree as follows:

Section 1 IDENTITY OF THE PARTIES

1.1 Parties. DNR is authorized to enter into this contract. DNR's address is: Wallace State Office Building, 502 East 9th Street, Des Moines, Iowa 50319.

University of Iowa, a public university, is organized under the laws of the State of Iowa and authorized to do business in the State of Iowa. University Hygienic Laboratory (UHL or Contractor) is a department of the University of Iowa, and its address is 102 Oakdale Campus, H101 OH, Iowa City, Iowa 52242-5002.

1.2 Project Managers. Each party has designated a Project Manager, who shall be responsible for oversight and negotiation of any contract modifications, as follows:

DNR Project Manager:
Dr. Mary Skopec
Geological Survey Bureau
109 Trowbridge Hall
Iowa City, IA 52242-1319
(319) 335-1579
mskopec@igsb.uiowa.edu

Contractor Project Manager: Michael D. Schueller
University Hygienic Laboratory
102 Oakdale Campus, #101 OH
Iowa City, IA 52242-5002
(319) 335-4389
michael-schueller@uiowa.edu

Section 2 STATEMENT OF PURPOSE

2.1 Authority. DNR has the authority to enter into these contracts according to the provisions of Iowa Code section 455B.103(3).[1]

2.2 Purpose. To assist DNR in assessing the condition of water bodies in the state of Iowa. Assistance will include the sampling of biological reference sites, the sampling of waters in need of further investigation (WINOFI), the development of a Coldwater Benthic Macroinvertebrate Index of Biotic Integrity (BMIBI), the development of small headwater stream sampling and assessment methodology, and the development of a large non-wadeable BMIBI.

[1] Iowa Code section 455B.103 states, in relevant part, that "[t]he director shall: 3) Contract, with the approval of the commission, with public agencies of this state to provide all laboratory, scientific field measurement and environmental quality evaluation services necessary to implement the provisions of this chapter, chapter 459, and chapter 459A."

Section 3 DURATION OF CONTRACT

3.1 Term of Contract. The term of this contract shall be July 3, 2007 through June 30, 2008, unless terminated earlier is accordance with the Termination section of this contract.

3.2 Approval of Contract. If the amount of compensation to be paid by DNR according to the terms of this contract is equal to or greater than $25,000.00 (twenty five thousand dollars), then performance shall not commence unless by July 2, 2007, this contract has been approved by the Environmental Protection Commission.

3.3 Renewal. DNR shall have the sole option to renew and extend this contract for subsequent periods, adding up to no more than 6 years total, by executing a signed contract prior to the expiration of this contract.

Section 5 STATEMENT OF WORK

Statement of Work. Contractor shall perform the following tasks related to biological, habitat and water quality sampling as described in Contractor's proposal, which is attached as Exhibit A and incorporated as a part of this Contract.

Failure by Contractor to complete the above-designated portions of its obligations by the Task Milestone Dates set out in Exhibit A or failure of the Contractor to make reasonable progress toward completing the remainder of the Statement of Work described in Exhibit A shall constitute material breach of this Contract by Contractor and shall be grounds for DNR to immediately terminate this Contract for cause.

If Contractor deviates from the Statement of Work described in Exhibit A, then Contractor shall inform DNR in writing within 10 days of the deviation.

Exhibit A

STATEMENT OF WORK

Part 1. Biological Assessment of Rivers and Streams

1. River/stream sites to be sampled under this contract are listed in Table 1. There are five types of sampling sites or projects: a) CWBMIBI; b) HWREF; c) NWBMIBI; d) REF; e) WINOFI; The sampling activities to be completed at each site type are described below.

a. CWBMIBI - Coldwater benthic macroinvertebrate index of biotic integrity (BMIBI). This sampling project is intended to provide data to refine and calibrate benthic macroinvertebrate data metrics that are specifically designed to assess the condition of Iowa's coldwater streams in Northeast Iowa.

Tentative sampling locations are listed in Table 1. Final site locations will be mutually agreed upon by IDNR and UHL; however, the number of sites and samples collected will not exceed that indicated in Table 1. One full biocriteria benthic macroinvertebrate (IBI) sample will be collected from each site between August 1 and September 15, 2007. A quantitative DNR habitat assessment will be completed and a grab water sample will be collected on the same date as benthic macroinvertebrate sampling. Field and laboratory chemical/physical water quality analytes are listed in Table 2. Using REMAP procedures, a composite periphyton Chlorophyll pigment sample will be collected from the riffle that is quantitatively sampled for benthic macroinvertebrates. For those sites specifically indicated in Table 1, a continuous temperature data logger will be deployed between July 1 and September 15, 2007. The data loggers will be programmed to measure water temperature around-the-clock every 15 minutes.

b. HWREF - Reference condition development for headwater streams. The objective of this project is to refine sampling methodologies and calibrate biotic indexes for evaluating the biological condition of Iowa's smallest perennial streams.

Besides the Buttermilk Creek sample site, from 10-20 additional sites will be chosen for sampling during between July 1, 2007 and June 30, 2008. The sites will be located in the Des Moines Lobe ecoregion of central and northcentral Iowa and mutually agreed upon by the IDNR and UHL. A subset of sites will chosen for sampling up to three times during the one-year interval. A complete biological sample will consist of one full biocriteria benthic macroinvertebrate (IBI) sample and one full biocriteria fish (IBI) sample. At each site, a quantitative DNR habitat assessment will be completed and a grab water sample will be collected on the same date as biological sampling. Field and laboratory chemical/physical water quality analytes are listed in Table 2. A total not exceeding 29 sets of biological, habitat assessment and water quality grap samples will be obtained.

c. NWBMIBI - Nonwadeable rivers and streams biological assessment. This sampling is intended for refining benthic macroinvertebrate sampling methods for Iowa's

large interior rivers and streams. The sampling is being done in conjunction with a companion project that is developing appropriate fish and physical habitat sampling methods for these systems (#07-04HA-18: "Methods for assessing the physical, chemical, and biological integrity of Iowa's Non-wadeable Rivers." Tentative sampling locations are listed in Table 1. The final site locations will be mutually agreed upon by IDNR and UHL, but the number of sites and samples collected will not exceed that indicated in Table 1. One full biocriteria benthic macroinvertebrate (IBI) sample will be collected from each site listed in Table 1 between July 15, 2007 and June 30, 2008. A grab water sample will be collected on the same date as benthic macroinvertebrate sampling. Field and laboratory chemical/physical water quality analytes are listed in Table 2. A manual instantaneous stream flow measurement will be obtained except where it is impractical or unnecessary to do so, in which case the flow level will be estimated from the nearest gauging station.

d. REF - Wadeable river and stream ecoregion reference site sampling. An established network of approximately 100 wadeable stream reference sites is being sampled on a five-year rotating schedule. Reference sites are relatively undisturbed stream habitats that are used to establish benchmark biological criteria for assessing the health and attainment status of aquatic life uses in Iowa's streams.

Eighteen (18) reference sites listed in Table 1 will be sampled between July 15 and October 15, 2007. The specific sampling date should be set within two weeks before or after the date (month/day) of the previous sampling event. A complete biological sample consisting of one full biocriteria benthic macroinvertebrate (IBI) sample and one full biocriteria fish (IBI) sample will be collected at each site. A quantitative DNR habitat assessment will be completed and a grab water sample will be collected on the same date as biological sampling. Field and laboratory chemical/physical water quality analytes are listed in Table 2.

e. WINOFI - Biological assessment of waters in need of further investigation (WINOFI). The objective of this sampling project is to determine the current status of previously identified stream biological impairments due to unknown causes. This sampling is being coordinated with related WINOFI sampling that is being conducted by UHL under the FY08 TMDL monitoring contract.

Eighteen (18) reference sites listed in Table 1 will be sampled between July 15 and October 15, 2007. The specific sampling date should be set within two weeks before or after the date (month/day) of the previous sampling event. A complete biological sample consisting of one full biocriteria benthic macroinvertebrate (IBI) sample and one full biocriteria fish (IBI) sample will be collected at each site. A quantitative DNR habitat assessment will be completed and a grab water sample will be collected on the same date as biological sampling. Field and laboratory chemical/physical water quality analytes are listed in Table 2.

Table 1. 2007-2008 stream sample collection and analysis

Site Type	R. / Stream [1,2]	County	305(b) Segment	Biological/ Habitat Sampling	Grab WQ/ Temp. Datalogger/ Benthic Chlorophyll Sampling
CWBMI BI	Big Mill Cr.	Jackson	IA 01-TRK-0030_2	BM only/Yes	Yes/No/Yes
CWBMI BI	Brownfield Cr.	Clayton	IA 01-TRK-0310_0	BM only/Yes	Yes/No/Yes
CWBMI BI	Buck	Clayton	IA 01-YEL-0020_1	BM only/Yes	Yes/Yes/Yes
CWBMI BI	Clear Cr.	Allamakee	IA 01-UIA-0080_0	BM only/Yes	Yes/No/Yes
CWBMI BI	Duttons Cr.	Fayette	n/a	BM only/Yes	Yes/No/Yes
CWBMI BI	Fenchell (Richmond Cr.)	Delaware	IA 01-MAQ-0280_0	BM only/Yes	Yes/Yes/Yes
CWBMI BI	Fountain Spring (Odell Cr.)	Delaware	IA 01-TRK-0330_0	BM only/Yes	Yes/No/Yes
CWBMI BI	Little Paint Cr.	Allamakee	IA 01-UIA-0020_0	BM only/Yes	Yes/No/Yes
CWBMI BI	Maquoketa R.	Clayton	IA 01-MAQ-0100_1	BM only/Yes	Yes/Yes/Yes
CWBMI BI	McLoud Run	Linn	IA 02-CED-0218_0	BM only/Yes	Yes/Yes/Yes
CWBMI BI	South Big Mill Cr.	Jackson	IA 01-TRK-0050_0	BM only/Yes	Yes/No/Yes
CWBMI BI	South Cedar Cr.	Clayton	IA 01-TRK-0270_2	BM only/Yes	Yes/Yes/Yes
CWBMI BI	S. Pine Cr. (Pine Cr.)	Winneshiek	IA 01-UIA-0250_0	BM only/Yes	Yes/No/Yes
CWBMI BI	Storybook Hollow	Jackson	IA 01-TRK-0060_0	BM only/Yes	Yes/No/Yes
CWBMI BI	Turtle Cr.	Mitchell	IA 02-CED-0530_0	BM only/Yes	Yes/Yes/Yes
CWBMI BI	Twin Springs Cr.	Delaware	IA 01-TRK-0320_0	BM only/Yes	Yes/No/Yes
CWBMI BI	Wapsipinicon R.	Mitchell	IA 01-WPS-0030_5	BM only/Yes	Yes/Yes/Yes
HWREF	Buttermilk Cr.	Wright	IA 04-UDM-0247_0	Full/Yes	Yes/No/No
HWREF	DSM Lobe HW Sites (2 sites)[1]	DSM Lobe	n/a	Full/Yes	Yes/No/No

HWREF	DSM Lobe HW Sites (10-20 sites)	DSM Lobe	n/a	Full/Yes	Yes/No/No
NWBMI BI	Big Sioux R.	Sioux	IA 06-BSR-0020_1	BM only/No	Yes/No/No
NWBMI BI	Cedar R.	Floyd	IA 02-CED-0110_2	BM only/No	Yes/No/No
NWBMI BI	Cedar R.	Benton	IA 02-CED-0030_3	BM only/No	Yes/No/No
NWBMI BI	Des Moines R.	Wapello	IA 04-LDM-0020_1	BM only/No	Yes/No/No
NWBMI BI	Des Moines R.[1]	Polk	IA 04-LDM-0040_3	BM only/No	Yes/No/No
NWBMI BI	Des Moines R.[2]	Polk	IA 04-LDM-0040_3	BM only/No	Yes/No/No
NWBMI BI	Des Moines R.[2]	Polk	IA 04-LDM-0040_3	BM only/No	Yes/No/No
NWBMI BI	East Nishnabotna R.	Montgomery	IA 05-NSH-0020_3	BM only/No	Yes/No/No
NWBMI BI	Iowa R.[1]	Iowa	IA 02-IOW-0050_2	BM only/No	Yes/No/No
NWBMI BI	Iowa R.[2]	Iowa	IA 02-IOW-0050_2	BM only/No	Yes/No/No
NWBMI BI	Iowa R.[2]	Iowa	IA 02-IOW-0050_2	BM only/No	Yes/No/No
NWBMI BI	Iowa R.	Louisa	IA 02-IOW-0010_2	BM only/No	Yes/No/No
NWBMI BI	Little Sioux R.	Cherokee	IA 06-LSR-0020_3	BM only/No	Yes/No/No
NWBMI BI	Maquoketa R.	Jackson	IA 01-MAQ-0060_1	BM only/No	Yes/No/No
NWBMI BI	North Raccoon R.	Greene	IA 04-RAC-0040_1	BM only/No	Yes/No/No
NWBMI BI	Rock R.	Lyon	IA 06-BSR-0040_1	BM only/No	Yes/No/No
NWBMI BI	Rock R.[2]	Lyon	IA 06-BSR-0040_1	BM only/No	Yes/No/No
NWBMI BI	South Raccoon	Dallas	IA 04-RAC-0180_1	BM only/No	Yes/No/No
NWBMI BI	South Skunk	Jasper	IA 03-SSK-0020_1	BM only/No	Yes/No/No
NWBMI BI	South Skunk	Keokuk	IA 03-SSK-0010_1	BM only/No	Yes/No/No
NWBMI BI	Wapsipinicon R.	Linn	IA 01-WPS-0020_2	BM only/No	Yes/No/No
NWBMI BI	Wapsipinicon R.[2]	Linn	IA 01-WPS-0020_2	BM only/No	Yes/No/No

NWBMI BI	WF Des Moines	Palo Alto	IA 04-UDM-0100_1	BM only/No	Yes/No/No
REF	Buck Cr.	Mahaska	IA 03-NSK-0042_0	Full/Yes	Yes/No/No
REF	Burr Oak Cr.	Mitchell	IA 02-CED-0490_2	Full/Yes	Yes/No/Yes
REF	Catfish Cr.	Dubuque	IA 01-TRK-0100_3	Full/Yes	Yes/No/Yes
REF	Coldwater Cr.	Winneshiek	IA 01-UIA-0390_0	Full/Yes	Yes/No/Yes
REF	E Br W Nishna. R.	Shelby	IA 05-NSH-0140_1	Full/Yes	Yes/No/No
REF	French Cr.	Allamakee	IA 01-UIA-0140_0	Full/Yes	Yes/No/Yes
REF	Little Beaver Cr.	Dallas	IA 04-UDM-0124_0	Full/Yes	Yes/No/No
REF	Lytle Cr.	Dubuque	IA 01-NMQ-0050_1	Full/Yes	Yes/No/No
REF	Middle Bear Cr.	Winneshiek	IA 01-UIA-0200_0	Full/Yes	Yes/No/Yes
REF	North Bear Cr.	Winneshiek	IA 01-UIA-0190_0	Full/Yes	Yes/No/Yes
REF	N Branch North R.	Madison	IA 04-LDM-0315_0	Full/Yes	Yes/No/No
REF	Paint Cr.	Allamakee	IA 01-UIA-0010_1	Full/Yes	Yes/No/No
REF	Richland Cr.	Tama	IA 02-IOW-0205_1	Full/Yes	Yes/No/No
REF	South Fork Iowa R.	Hardin	IA 02-IOW-0280_2	Full/Yes	Yes/No/No
REF	Trout R.	Winneshiek	IA 01-UIA-0290_0	Full/Yes	Yes/No/Yes
REF	West Fork Cedar R.	Butler	IA 02-WFC-0020_2	Full/Yes	Yes/No/No
REF	West Nishnabotna R.	Shelby	IA 05-NSH-0090_3	Full/Yes	Yes/No/No
REF	White Fox Cr.	Hamilton	IA 04-UDM-0220_1	Full/Yes	Yes/No/No
WINOFI	Ballard Cr.	Story	n/a	Full/Yes	Yes/No/No
WINOFI	Elk R.	Clinton	IA 01-MAQ-0030_1	Full/Yes	Yes/No/No
WINOFI	Elk R.	Clinton	n/a	Full/Yes	Yes/No/No
WINOFI	Walnut Cr.	Story	n/a	Full/Yes	Yes/No/No
[1] - sites will be sampled three times per year - spring, summer and fall					
[2] - sites are additional sampling sites located in the reach and will be sampled during the summer sampling trip					

Table 2. 2007-2008 biological assessment monitoring grab sampling analytes

Biochemical Oxygen Demand (CBOD5)	pH (field)
Chloride	Phosphorous Series: Dissolved Orthophosphate, Total Phosphorus
Chlorophyll-A (water)	Stream Flow (Field)
Chlorophyll-A (periphyton; only at continuous temperature data logger sites)	Total Dissolved Solids
Dissolved Inorganic Carbon	Total Organic Carbon
Dissolved Organic Carbon	Total Suspended Solids
Dissolved Oxygen (Field)	Turbidity
E. coli	Volatile Suspended Solids
Nitrogen series: total ammonia-N, nitrate + nitrite-N, total kjehldahl-N	Water Temperature (Field)

2. Following is the Full Biocriteria Sample Description to be used:

a. Field Activities:

UHL shall gather data from the sample locations identified in Table 1. Each sampling event shall include the following (except as indicated in Table 1): sampling aquatic biota; quantitatively assessing stream habitat ; manually measuring stream flow; and collecting a water quality grab sample. Field measurements of dissolved oxygen, pH and water temperature also shall be taken. Fish shall be identified to species, counted, and examined for external anomalies in the field.

b. Laboratory Sample Analysis:

Benthic macroinvertebrates – Four samples shall be collected from each site (3 standard-habitat, 1 multi-habitat). Samples shall be sorted, identified, verified, and catalogued in the laboratory.

Fish - Two voucher specimens of each species shall be retained. Small fish or fish that are difficult to identify shall be preserved and identified in the laboratory to species or the lowest practical taxonomic level.

Water Sample – Sample analytes are identified in Table 2. Samples submitted for analysis through this activity shall be coded as ***AMBBIO***. Sample collection, handling, and analysis shall be conducted according to applicable DNR and UHL QA/QC documentation. Equipment shall be purchased and maintained by UHL, with ownership retained by DNR.

c. Bioassessment Reporting:

Field data sheets and results of biological, habitat and water sample analyses, from sampling conducted prior to January 1, 2008, shall be provided to the DNR by April 15, 2008. Field data sheets and results of biological, habitat and water sample analyses, from sampling conducted January 1 - June 30, 2008 shall be provided to the DNR by September 15, 2008.

Part 2. Reporting Requirements

1. UHL shall prepare and submit a quarterly status and billing report to Mary Skopec, Water Monitoring Section Supervisor, not later than fifteen calendar days after the end of each calendar quarter for all activities listed under Part 1 of this Statement of Work. The quarterly report shall identify work completed and billed by waterbody, date, site location and the variables analyzed. It also shall identify performance problems, future coordination requirements. Quarterly reports shall be submitted in electronic format (PDF).

2. For analytical results below the quantitation limit, the test quantitation limit shall be reported as "less than". Any results including fecal coliform, E. coli, and enterococci for tests run on samples after recommended holding times have been exceeded shall be so indicated or qualified as appropriate.

Part 3. General Provisions for Ambient Biological Monitoring Projects

Unless otherwise indicated, all requests for approvals, reports, schedules and all other necessary written submissions shall be directed by UHL to the Watershed Monitoring and Assessment Section Supervisor who shall serve as Departmental representatives for all references to "the Department" or to "DNR."

Part 4. Quality Assurance

1. All monitoring activities shall be conducted in accordance with UHL and Department Quality Management Plans and applicable Project Work Plans or Quality Assurance Project Plans. For new monitoring activities, a Project Work Plan shall be developed by the Department and reviewed by UHL. When possible, DNR shall provide 10 working days for UHL review. Revisions to existing plans shall be made as identified by the Department. All Project Work Plans and Quality Assurance Project Plans shall incorporate U.S. EPA approved analytical methods unless otherwise noted in this scope of work.

2. UHL shall submit to the Department information that identifies the achievement of Quality Assurance objectives for each monitoring project. Unless otherwise specified in this scope, a report shall be submitted to the Department by April 1, 2008.

3. UHL shall submit information on data quality requirements and assessments (such as detection limit, quantitation limit, estimated accuracy, accuracy protocol, estimated precision, and precision protocol) to DNR for any sample upon request. Information on the analytical reference method, sample preservation and holding time also shall be provided if requested.

4. The UHL shall provide copies of revised Methods Manuals and Standard Operating Procedure Manuals to the Department upon request. Copies of manuals and procedures shall be available from the Iowa City laboratory.

Part 5. Data Management

1. UHL shall transfer biological, habitat and water monitoring data to the Watershed Monitoring and Assessment Section electronically in an Excel or other mutually agreeable format. UHL will enter benthic macroinvertebrate, fish assemblage, and stream physical habitat data into the DNR Biocrit database. All data entry shall be performed according to the Department's approved Standard Operating Procedure (SOP).

2. UHL shall transfer water quality data to the Iowa Geological Survey via the IGS FTP site. Chemical and physical data shall be transferred in a mutually agreeable format for entry into STORET.

3. Analytical data shall be transmitted to the Department within time limits and by methods described, and UHL staff shall interact with Department staff on a routine basis to assure accurate and complete transmittal of data. UHL shall assist in creating data management systems, data analysis, and interpretation of flow and concentration information.

4. Sampling and Sample Reporting Procedures. All samples submitted to UHL by Department or UHL staff shall be coded to a specific monitoring activity and shall include a detailed list of the analyses to be performed unless other arrangements have been made before shipment of the sample to UHL. UHL log-in procedures shall accommodate this code. A monthly report of the logged-in samples shall be provided in a mutually agreeable format. Any deviation from normal sampling procedures, such as a change in sampling location, omission of samples for analysis, etc., shall be identified to DNR in writing prior to transmittal of analytical results.

Part 6. Reports and Products

The reports and products shall include, but shall not be limited to:

- Quarterly reports (in PDF format) as described Part 1, starting October 15, 2007 and on a quarterly basis thereafter.
- Data interpretation in the form of data charts, statistical analyses, operating procedures, and other written submissions as determined through coordination of IDNR and UHL staff.
- A report of all bioassessment sampling completed shall be submitted in writing to DNR by April 15, 2008 and September 15, 2008 as applicable.